

**Comments on “USEPA COMBINED TECHNICAL REVIEW
COMMENTS ON THE ‘HUMAN HEALTH RISK ASSESSMENT
PINES AREA INVESTIGATION, AOC II’ TOWN OF PINES, INDIANA
MAY 14, 2010”**

**By Larry Jensen of the PINES Group
May 27, 2010**

The following observations apply to the radioactivity-related General Comment 2 and Specific Comments 31, 32, and 33.

Regarding General Comment 2:

Region 5 U.S. Environmental Protection Agency (USEPA5) should not dismiss the 40 CFR 192 standards since they have formed the basis for hundreds of millions of dollars of cleanups in Region 5 alone. Doing so may threaten the basis on which these past cleanups were mandated.

If a risk assessment established that there was a more protective cleanup criterion than the 40 CFR 192 criterion then that criterion should be used for rectifying the radioactive contamination in Pines.

This comment fails to address a third way in which the radiation risk can be assessed using USEPA methods. That was the method the PINES Group applied using Federal Guidance Report No. 13, Cancer Risk Coefficients for Environmental Exposure to Radionuclides. The calculations there were fully transparent. The risk exceeded 10^{-4} .

Methods such as the USEPA Risk Calculator and Argonne National Laboratory’s RESRAD program are black box methods where data is entered, the program performs calculations behind the scenes, and a result appears. At the very least, USEPA5 should ensure that a risk assessment using Federal Guidance Report No. 13 coefficients is used in addition to calculations using the USEPA Risk Calculator and using the RESRAD program. Results should be compared.

USEPA5 has not obtained all the data necessary to perform the risk assessments which they commit to. Specifically, only two radionuclides were measured by ICPMS (U-238, U-235). No data was obtained for any of the Thorium Decay Series by ICPMS. Essential radionuclides such as radium-226 and radium-228 were not measured. No gamma exposure rates from flyash related deposits in Pines were obtained, nor were depth of radionuclides in Pines made. It is unclear how a thorough risk assessment can be made without direct measurements of these aspects.

Regarding Specific Comment 31:

It is unclear how USEPA5 can make a determination as described here without direct data on the relevant radionuclides. There is no data determining whether 5 pCi/g nor 15 pCi/g radium concentrations are present in Pines soils. There is no radionuclide concentration data for 15 centimeter deep layers on any Pines properties. There is no data on radionuclide concentrations in 100 square meter areas on any Pines properties.

As stated in the previous observation on General Comment 2, risk calculations using Federal Guidance Report No. 13 coefficients should also be made.

Regarding Specific Comment 32:

The risks posed by background samples cannot be calculated because there is no ICPMS data on background radionuclide concentrations.

Regarding specific Comment 33:

An evaluation of Pines cannot be made because no radionuclide data has ever been taken from Pines residential and municipal property. Data from Yard 520 is limited and cannot always be projected to Pines conditions. Thus, there is no complete database by which these determinations can be made.